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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,144	07/18/2003	Melissa Wiedemann	017750-420	1878

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EXAMINER	
RASHID, DAVID	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
09/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/622,144	WIEDEMANN ET AL.	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 50-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,7,54-58,63 and 64* is/are rejected.

7)☒ Claim(s) *2-5,8,9,51-53 and 59-62* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Table of Contents

Table of Prior Art

Continued Examination Under 37 C.F.R. § 1.114

[1] A request for continued examination under 37 C.F.R. § 1.114, including the fee set forth in 37 C.F.R. § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 C.F.R. § 1.114, and the fee set forth in 37 C.F.R. § 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 C.F.R. § 1.114. Applicant's submission filed on Jul. 24, 2009 has been entered.

Amendment & Claim Status

[2] This office action is responsive to Amendment After Final (hereinafter "Amendment") received on Jun. 29, 2009. Claims 1-9 and 50-64 pending; claims 10-49 cancelled.

Information Disclosure Statement

[3] The information disclosure statement filed Jul. 24, 2009 complies with the provisions of 37 C.F.R. § 1.97, 1.98 and M.P.E.P. § 609. It has been placed in the application file, and the information referred to therein has been considered as to the merits.

Specification

[4] The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Response to Amendment

Remarks regarding Rejections Under 35 U.S.C. § 112

[5] In response to Amendment at 10, the previous § 112 rejections are withdrawn.

Remarks regarding Rejections Under 35 U.S.C. § 101

[6] In response to Amendment at 10-11, the previous § 101 rejections are withdrawn.

Remarks Moot regarding Rejections Under 35 U.S.C. § 102

[7] Amendment at 12-14 regarding rejections with respect to claims 1, 6, 7, 51, 54-58, and 61-64 under U.S.C. § 102(b) as being anticipated by Hsu (U.S. Patent 6,404,920) have been respectfully and fully considered, but are now considered moot in view of the new grounds of rejection.

Claim Rejections - 35 U.S.C. § 103

[8] The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Cham in view of '490 Patent

[9] **Claims 1, 6, 50, 54-58, 63,** and **64** is rejected under § 103(a) as being unpatentable over Cham in view of '490 Patent.

Regarding **claim 1**, while Cham discloses a method ("multiresolution, multi-hypothesis approach" at p. 1, s. 1, right column) for identifying objects (e.g., the objects creating peaks identified at fig. 1) in an image (e.g., fig. 3a and fig. 4) comprising:

receiving an image with a first resolution ("resolution level" r = 2 wherein R=2 at p. 2, s. 2.1, left column; the right-side of fig. 1a-c[1]), the image representing a scene including physical objects (e.g., the scene including physical objects at fig. 3a and fig. 4);

transforming the image at the first resolution ("resolution level" r = 2; the right-side of fig. 1a-c) to an image at a second resolution ("resolution level" r = 1; the left-side of fig. 1a-c; "data obtained from a low resolution level" at p. 2, s. 2.1, left column), the first resolution being higher than the second resolution;

processing the image at the second resolution ("resolution level" r = 1; the left-side of fig. 1a-c) to identify an object (the object creating the peaks identified at fig. 1, left-side) from among the physical objects in the image at the second resolution;

selecting a detection algorithm from among plural detection algorithms ("preferred estimator" Kalman filter, standard RANSAC, or Bayesian RANSAC at p. 2, s. 2.1, right column and fig. 1; "best-fit search" at p. 3, s. 2.1, left column) based on a condition (e.g., its peak height dependent on the brightness of the image, dependent on the time of day if taken outside; also "uneven film development" at p. 5, s. 3, right column) associated with the object (the object creating the peaks identified at fig. 1, left-side) identified at the second resolution ("resolution level" r = 1; the left-side of fig. 1a-c); and

processing the image (e.g., fig. 3a and fig. 4) at the first resolution ("resolution level" r = 2; the right-side of fig. 1a-c) using the object (the object creating the peaks identified at fig. 1, left-side) identified at the second resolution ("resolution level" r = 1; the left-side of fig. 1a-c) to

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[1] "[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if one of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See M.P.E.P. § 2131.03.

The recitation of ranges given on p. 2, s. 2.1, left column allows R = 2, wherein the first resolution would thus be r = 2, the second resolution would thus be r = 1.

identify another object (e.g., the another object creating two more peaks at fig. 1b-c, right side) from among the physical objects in the image at the first resolution ("resolution level" r = 2; the right-side of fig. 1a-c) according to the selected detection algorithm (in this case either standard RANSAC or Bayesian RANSAC at p. 2, s. 2.1, right column),

Cham does not disclose identifying objects (other than just peaks as disclosed by Cham) in an image in the sense of Applicant's invention.

'490 Patent discloses a method for efficiently registering object models in images via dynamic ordering of features that teaches both Cham (7:34-53) and identifying objects (fig. 1a, item 14) in an image (fig. 1a, item 13a) in the sense of Applicant's invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the peaks of Cham (objects in the image creating the peaks) to be physical objects themselves in the image as taught by '490 Patent discloses to provide "a method and apparatus for sequential feature registration in which features are selected dynamically so as to minimize total matching ambiguity, based on a propagated state probability model. The method can be applied both to feature-to-feature matching and to feature-to -image matching." Cham at 3:30-35.

Regarding **claim 6**, Cham discloses further comprising:

determining whether the object (the object creating the peaks identified at fig. 1, left-side) and the another object (the another object creating two more peaks at fig. 1b-c, right side) are desired objects based upon a context (the peak heights at fig. 1) associated with at least one of the image at the first resolution and the image at the second resolution.

Regarding **claim 50**, Cham discloses wherein the detection algorithm ("preferred estimator" Kalman filter, standard RANSAC, or Bayesian RANSAC at p. 2, s. 2.1, right column and fig. 1; "best-fit search" at p. 3, s. 2.1, left column) for identifying the other object (the another object creating two more peaks at fig. 1b-c, right side) at the first resolution is automatically selected[2] from among the plural detection algorithms.

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[2] See MPEP § 2144.01 (citing "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). . .").

Regarding **claim 54**, Cham discloses wherein the receiving of the image includes receiving the image at the first resolution from at least one of an imaging device and a photographic device (e.g., "digital camera" at p. 5, s. 3, right column).

Regarding **claim 55**, Cham discloses wherein the condition (e.g., its peak height dependent on the brightness of the image, dependent on the time of day if taken outside; also "uneven film development" at p. 5, s. 3, right column) associate with the object (the objects creating peaks identified at fig. 1) identified at the second resolution includes at least one of a geographic location, a terrain type, a ground sample distance, weather, a time of day (an image at night would not contain any detected peaks), temperature, a viewing condition, a band frequency of a sensor, a degree of freedom of the sensor, a viewing angle of the sensor, and a positional vector.

Regarding **claim 56**, while Cham in view of '490 Patent discloses displaying at least one of the object identified at the second resolution and the another object identified at the first resolution (e.g., fig. 1) on a display device[3].

Beauregard claims

Regarding **claim 57**, claim 1 recites identical features as in the computer-readable recording medium (it is inherent if not already implicit that the method-steps of Cham are performed using a computer-readable recording medium) having a computer program (it is inherent if not already implicit that the method-steps of Cham are performed using a computer program with the computer-readable medium) recorded thereon that causes a computer to identify objects (e.g., the objects creating peaks identified at fig. 1) in an image (e.g., fig. 3a and fig. 4), the program causing a computer to perform operations as in claim 57. Thus,

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One skilled in the art would reasonably be expected to draw an automatic selection of the detection algorithms Kalman filter, standard RANSAC, and Bayesian RANSAC based on the already computed hypothesis tree outline (1)-(5) given at p. 3, s. 2.1, left column (i.e., finding the best-first search based on variable p).

[3] MPEP, supra note 2, at § 2144.01.

The objects are those in the images that create peaks of the first and second resolutions in fig. 1. One skilled in the art would reasonably be expected to draw displaying at least one of the object identified at the second resolution and the another object identified at the first resolution on a display device (e.g., a monitor) as evident from on the images of fig. 3-6, and the mass image analysis computations done on a computer readable medium that accompanies a monitor.

references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 57.

Regarding **claim 58**, claim 55 recites identical features as in the computer-readable recording medium as in claim 58. Thus, references/arguments equivalent to those presented above for claim 55 are equally applicable to claim 58.

Regarding **claim 63**, claim 6 recites identical features as in the computer-readable recording medium as in claim 63. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 63.

Regarding **claim 64**, claim 56 recites identical features as in the computer-readable recording medium as in claim 64. Thus, references/arguments equivalent to those presented above for claim 56 are equally applicable to claim 64.

Cham in view of '490 Patent and Hsu

[10] **Claim 7** is rejected under § 103(a) as being unpatentable over Cham in view of '490 Patent and Hsu.

Regarding **claim 7**, Cham in view of '490 Patent does not disclose wherein the object is a river.

Hsu discloses a method (fig. 6) for identifying objects and features in an image that includes wherein the object is a river ("a river has been labeled from the single feature image"; fig. 8d).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the objects identified Cham in view of '490 Patent to include rivers as taught by Hsu "to efficiently manipulate, analyze, and display all forms of geographically referenced information" and to "using newly-generated images, described above, to extract additional objects from the original image. The newly-created image can be used as an input to the original segmentation analysis, creating an additional information layer to perform object extraction. For instance, if a river has been labeled from the single feature image and a buffer around the river is generated around the river boundary contour, the buffer can be used to infer that a given object is located within a predetermined distance from the river bank." Hsu at 4:6-8 and 14:44-53 (emphasis added).

Allowable Subject Matter

[11] **Claims 2-5, 8-9, 51-53,** and **59-62** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indicating Allowable Subject Matter

[12] The following is a statement of reasons for the indication of allowable subject matter:

Regarding **claim 2** (and claim 59 by analogy), while the prior art of record discloses transforming the image at the second resolution to an image at a third resolution, the second resolution being higher than the third resolution, the prior art of record does not teach processing the image at the third resolution to identify yet another object, wherein the yet another object is employed in the identification of the object and the another object. Claims 3, 8-9, 52, and 60 allowable by dependency.

Regarding **claim 4**, while the prior art of record discloses the method of claim 1, the prior art of record does not teach processing of the image at the first resolution performed as a function of a type of terrain in the image at the second and first resolution. Claim 5 allowable by dependency.

Regarding **claim 51** (and claim 61 by analogy), while the prior art of record discloses the method of claim 1, the prior art of record does not teach wherein the plural detection algorithms include at least two algorithms given in the list.

Regarding **claim 53** (and claim 62 by analogy), while the prior art of record discloses the method of claim 1, the prior art of record does not teach selecting the detection algorithm includes selecting a second detection algorithm, which is different from the first detection algorithm, from among the plural detection algorithms based on the condition associated with the object identified at the second resolution.

Conclusion

[13] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578

and fax number (571)270-2578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-74537453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

David P Rashid
Examiner
Art Unit 26244